

IN THE DRAWINGS

Kindly substitute the enclosed Replacement Sheet 1 for sheet 1 of the drawings originally filed.

The enclosed replacement sheet has been submitted for the purpose of substituting the correct numeral designations 38 and 15 in FIG. 2.

The changes are illustrated on the marked up copy of sheet 1, also attached.

It is respectfully submitted that the Replacement Sheet 1 is in full conformity with 37 CFR 1.84 and should be deemed acceptable.

RESPONSE TO THE RESTRICTION REQUIREMENT

Election

Applicants, by their attorneys, hereby confirm the telephone provisional election of Group I, claims 1 through 17, with traverse.

Transverse

It is respectfully submitted that the restriction requirement is inappropriate because the inventions are not patentably distinct, the steps of method claim 18 cannot be employed to fabricate a materially different product than the product set forth in the original claims of Group I.

It should be initially noted that the restriction requirement under MPEP §806.05(e) as recited in the Office Action indicates that the inventions of the two groups are related as process and apparatus for its practice.

It is respectfully submitted that the method claims relate to a method of manufacturing the product of the claims of Group I, not to a method of using the product.

Without providing any showing, the restriction requirement indicates that the steps of method claim 18 can be performed with a materially different apparatus.

If restriction were proper, such restriction would be pursuant to MPEP §806.05(f) which requires a showing A) that the process as claimed is not an obvious process of making the product and the process as claimed can be used to make a materially different product or B) that the product as claimed can be made by another materially different process.

Neither showing has been presented in the restriction requirement.

Further, the method claims, which define a method for fabricating the product, recite the structural limitations of the Group 1 claims. Attention is directed, for example, to claim 18 step b) as well as step c) and step d).

Simply put, method claim 18 cannot be practiced except for the manufacture of the product and the product cannot be made by a materially different process. The inventions are not patentably distinct.

Accordingly, it is submitted that the restriction requirement is inappropriate and should be withdrawn.

REMARKS*Claim Status*

There are 20 claims remaining in the application, with claims 2, 4 and 7 having been cancelled and new claims 21 through 23 added.

Claims 1, 15 and 18 are independent.

The Invention

Briefly, Applicants' invention relates to an interocclusal sports prophylaxis including a core having an arch shaped occlusal plate bordered by maxillary buccal and lingual walls. The plate includes a mandibular face having thickened molar and incisor zones, such that mandibular occlusal surfaces not registered with the zones are spaced from the mandibular face of the occlusal plate to provide breathing passages.

A molded dentition encasement overlies the maxillary face of the plate as well as the inner faces of the buccal and lingual walls and the molar and incisor zones of the mandibular face. The plate includes transverse through passages at the molar and incisor zones and the dentition encasement material extends into the through passages to unify the molded dentition encasement.

The occlusal plate includes a downwardly projecting mandibular force dispersal shield registered with an incisor zone and downwardly extending framing braces registered with molar

zones. The periphery of the mandibular face is free of downward extensions between the force dispersal shield and the framing braces for access to the breathing passage.

The References

FARRELL (6,935,857) discloses a hollow mouthguard including U-shaped upper and lower channels and with the bottom walls of each channel being spaced apart, as shown in FIG. 3.

Each of FARRELL'S channels includes continuous flanges which overlie both upper and lower buccal tooth surfaces and inner walls which overlie upper and lower lingual tooth surfaces.

Since the channel flanges prevent air flow over, around or between tooth surfaces, air holes are provided through the hollow space between the channels.

The ORRICO reference (6,170,485) discloses an antisnoring device comprising two rigid trays configured as a partial dental arch (which does not overlie molars), with an adjustable attachment system for joining the trays in such a position as to urge the lower jaw forward from its normal position. Use of one tray without the other would defeat the purpose of the invention. Breathing openings are provided between the trays.

The Claims

Amended claim 1 defines Applicants' invention as an interocclusal sports prophylaxis including a core having an arched shaped occlusal plate with buccal and lingual walls extending upwardly from the plate and a dentition encasement material covering the upper surface of the plate and inner faces of the walls.

Claim 1 further specifies that the plate includes a generally planar lower mandibular face with the dentition encasement material covering selected zones of the face with the selected zones being spaced from one another along the face and the occlusal plate extending below the plane of the face at the selected zones.

Claim 1 further specifies that the core includes transverse passages through the plate at the selected zones, with the dentition encasement material covering the upper surface of the plate and the selected zones extending through the passages.

Claim 1 further specifies that the mandibular occlusal surfaces not registered with the zones are spaced from the mandibular face to provide oral breathing passages between mandibular tooth surfaces and the mandibular face when the prophylaxis is worn.

The FARRELL device does not teach or suggest the novel structure set forth in amended claim 1. More specifically, FARRELL fails to suggest a dentition encasement material covering only selected zones of a mandibular face or an occlusal plate extending below the plane of a mandibular face at selected zones.

Additionally, FARRELL does not teach or suggest transverse passages through an occlusal plate at the selected zones, with dentition encasement material which covers the upper surface of the occlusal plate and the selected zones extending through the passages.

A significant aspect of Applicants' invention as recited in claim 1 resides in the specific structure for an occlusal plate extending below the plane of the mandibular face at the selected zones to provide breathing passages.

The ORRICO reference, like FARRELL, provides for complete encasement of the maxillary and mandibular dentitions. Air holes are provided between the two trays of ORRICO. Air flow between mandibular tooth surfaces and the corresponding surfaces of ORRICO is precluded. In ORRICO, a thermoplastic moldable fill encases the mandibular dentition and precludes the possibility of air flow.

Claim 1 defines an apparatus which is not taught or suggested by FARRELL or ORRICO or any conceivable combination thereof. Further, one finds no motivation to modify FARRELL with any of the teachings of ORRICO, nor would such modification resulting Applicants' claimed structure.

Claim 3, dependent from claim 1, specifies that the dentition encasement material is molded to the core. Allowability of claim 3, as dependent from claim 1 and by virtue of the inclusion of patentable subject matter is evident.

Claim 5, dependent from claim 1 further specifies that the occlusal plate extends below the plane of the mandibular face a distance in the order of at least one mm and claim 6, dependent from claim 5 further specifies that the distance is in the order of 2 mm at the incisor zone. The claimed dimensional relationship assures an adequate airway passage for mouth breathing as required for increased oxygen intake during sporting activities. See, for example, Specification page 14, lines 2 – 5 and page 15, lines 18 – 21.

The references, either taken alone or in combination, do not disclose the concept of providing an air passage between a mandibular face of an occlusal plate and mandibular occlusal surfaces. Claims 5 and 6 are clearly allowable.

Claims 8 through 10, 13 and 14, dependent from claim 1 or intermediate claims, specify the resin from which the core is fabricated and the properties of such resin. These claims are clearly allowable in view of their dependence from claim 1 and also by virtue of the inclusion of patentable subject matter.

Claims 11 and 12, both dependent from claim 1, are directed to the dimensional relationships defining the airway passage between the mandibular face and mandibular tooth surfaces. Allowability of these claims, in view of their dependency from allowable claim 1 and also by virtue of the inclusion of patent subject matter is evident.

Independent claim 15 defines the invention as an interocclusal sports prophylaxis including a core having an arched shaped occlusal plate, maxillary buccal and lingual walls extending upwardly from the plate, and a dentition encasement material. Claim 15 further specifies that the occlusal plate includes a generally planer lower mandibular face and that the core includes a labial force dispersal shield extending downwardly from a peripheral portion of the occlusal plate to protect a users incisor mandibular structure.

Claim 15 further specifies that the mandibular face includes a pair of molar zones in registration with mandibular molar teeth of the user and that the core includes a pair of opposed peripheral framing braces extending downwardly from the periphery of the mandibular face at the molar zones. Claim 15 also specifies that the buccal periphery of the mandibular face is free of downward extensions intermediate the labial force dispersal shield and the framing braces to facilitate oral breathing.

The novel structure defined in claim 15 is not to be found or suggested in the references of record.

The references do not suggest providing a downwardly extending labial force dispersal shield and downwardly extending framing braces at molar zones without downward extensions intermediate the force dispersal shield and the framing braces so as to facilitate oral breathing.

Claim 15 is clearly allowable.

Claim 16, dependent from claim 15, further specifies that the dentition encasement material covers the molar zones and an incisor zone of the mandibular face, with the incisor zone being registered with the force dispersal shield. Allowability of claim 16, as dependent from claim 15 and also by virtue of the incorporation of patentable subject matter is evident.

Claim 17, dependent from claim 15, further specifies that the mandibular face includes an incisor zone with the incisor zone and the molar zones extending below the plane of the mandibular

face, whereby mandibular occlusal surfaces of a user which are not registered with the zones are spaced from the mandibular face to provide oral breathing passages.

As previously discussed with respect to claim 1, the references provide for complete encasement of the maxillary and mandibular dentitions. Air flow between mandibular tooth surfaces and the corresponding mandibular surfaces of the referenced devices is precluded.

Claim 17 is clearly allowable.

It should be noted that independent method claim 18 defines a method of fabricating a sports prophylaxis which includes substantially all of the limitations of claim 15. This claim is clearly allowable for the reasons previously stated with respect to claim 15.

Claims 19 through 23, dependent from claim 18 or intermediate claims, further define the method by specifying the resins employed to fabricate the prophylaxis (claims 19 and 20) and molding techniques (claims 21 through 23). Allowability of these claims as dependent from an allowable base claim and by virtue of the inclusion of patentable subject matter is evident.

In view of the foregoing, it is respectfully submitted that all claims remaining in this application are clearly allowable.

WHEREFORE, reconsideration and early allowance are earnestly solicited.

Dated: New York, New York
January 25, 2006

Respectfully submitted,

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By

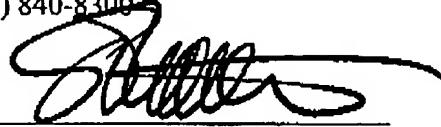
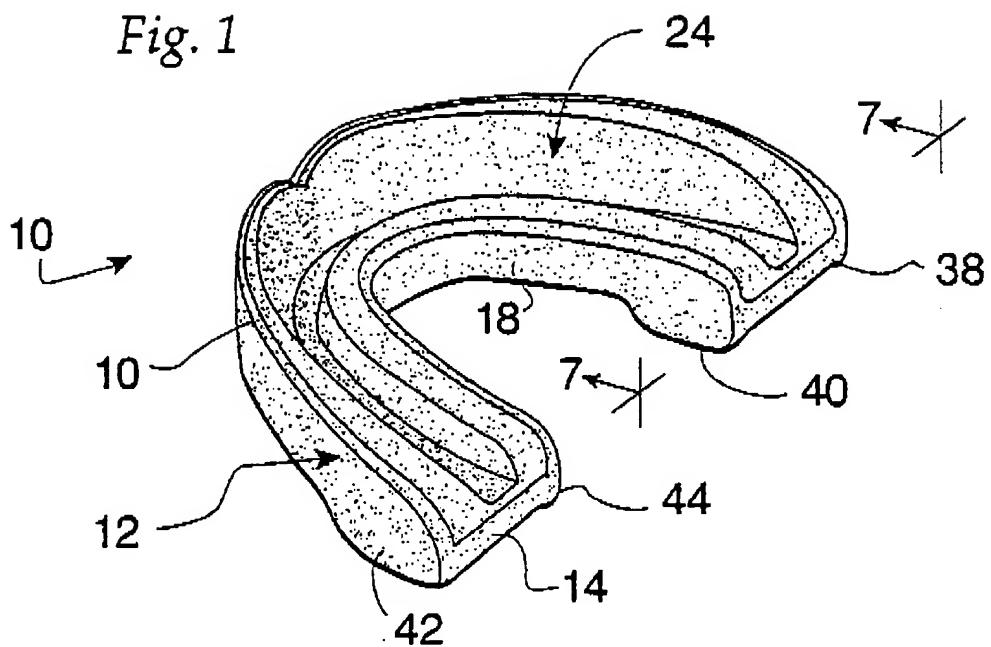

Seth Natter

Fig. 1*Fig. 2*